THE CLAIMS

What is claimed is:

1. A vehicle frame, comprising:

a first frame portion that comprises a plurality of struts associated with each other to form a first framework; and

a second frame portion associable with the first frame portion in a stiffening association for significantly increasing the stiffness of the first frame portion;

wherein the associated first and second frame portions are configured for supporting a rider sitting in the vehicle frame, the associated frame portions defining an interior cavity dimensioned for housing a component of a propulsion system for propelling the vehicle and comprising attachments for supportedly connecting to wheels of the vehicle.

2. The vehicle frame of claim 1, wherein the first frame portion comprises at least one skin member structurally associated with the struts for closing at least portions of openings defined between the struts.

3. The vehicle frame of claim 2, wherein the skin member of the first frame portion is configured and associated with the framework for significantly increasing the stiffness thereof.

4. The vehicle frame of claim 3, wherein the skin member of the first frame portion comprises a plurality of skins coupled with the framework.

5. The vehicle frame of claim 2, wherein the skin member of the first frame portion comprises a battery tray inside the interior cavity configured for supporting a battery to power the propulsion system.

6. The vehicle frame of claim 5, wherein the battery tray is associated with the first framework for significantly stiffening the first framework.

7. The vehicle frame of claim 6, wherein first and second frame portions are configured for permitting removal of the battery tray from the frame interior when the first and second frame portions are separated.

8. The vehicle frame of claim 5, wherein the struts comprise at least one concave bracket configured for receiving and supporting a bottom portion of the tray.

9. The vehicle frame of claim 1, wherein a plurality of the struts are coupled to each other such that at least most of the framework is rigid.

10. The vehicle frame of claim 9, wherein a plurality of the struts are welded to each other.

11. The vehicle frame of claim 10, wherein the struts comprise a rear group of struts that are formed in a unitary piece and define an open rear wall of the scooter.

12. The vehicle frame of claim 1, wherein the second frame member comprises a skin member configured for significantly contributing to the stiffness of the frame.

13. The vehicle frame of claim 12, wherein the second frame member comprises a plurality of struts associated with the skin member for significantly stiffening the skin member and the frame.

14. The vehicle frame of claim 12, wherein the struts of the first frame portion are made of aluminum or an alloy thereof, and the skin member of the second frame portion comprises a plurality of skins made of a composite, fiber-reinforced material.

15. The vehicle frame of claim 1, wherein the first frame portion is a lower frame portion disposed beneath the second frame portion, which is an upper frame portion.

16. The vehicle frame of claim 15, wherein the lower frame portion comprises a head tube configured to rotatably receive a steering tube that is mounted with a steerable wheel of the vehicle.

17. The vehicle frame of claim 1, wherein the frame defines a stepthrough to provide a scooter frame.

18. The vehicle frame of claim 1, wherein the associated first and second frame portions have a longitudinal torsional stiffness increased compared to the longitudinal torsional stiffness of the first frame member by a factor of at between about 1.2 and 10.

19. A vehicle, comprising:

the vehicle frame of claim 1;

the seat supportedly mounted on at least one of the frame portions;

the plurality of wheels supportively associated with the frame;

the energy source housed in the interior cavity; and

a motor connected to the energy source and to at least one of the wheels for propelling the vehicle.

20. The vehicle of claim 19, wherein the wheels on which the vehicle is movably supported comprise up to three wheels.

21. The vehicle of claim 19, further comprising a suspension system connecting the wheels to the vehicle frame.

22. The vehicle of claim 21, wherein the suspension system comprises at least one swing arm supportively associating the frame with at least one of the wheels.

23. A vehicle, comprising:

a vehicle frame, comprising:

a lower frame portion that comprises a plurality of struts associated with each other to form a first framework and a skin member covering openings between the struts, and

a upper frame portion comprising a skin member associable with the first frame portion in a stiffening association for significantly increasing the stiffness of the first frame portion, wherein the associated first and second frame portions define an interior cavity;

the seat supportedly mounted on the upper frame portion;

the plurality of wheels supportively associated with the frame;

the energy source housed in the interior cavity; and

a motor connected to the energy source and to at least one of the wheels for propelling the vehicle.

24. The vehicle of claim 23, wherein the energy source comprises a battery, and the skin member of the lower frame portion comprises a battery tray that is configured for supporting the battery to significantly increase the torsional stiffness of the assembled frame, the upper and lower frame portions being configured for allowing removal of the battery tray from the frame interior when the upper and lower frame portions are separated, wherein the assembled frame portions are configured for substantially enclosing the battery.